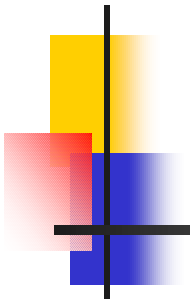
ICR Corrections Update

- Looking at cuts

Default Data Quality Cuts

- Cuts on Photon (Simple Cone)
  - **Leading photon is highest pt EM cluster with Abs(EM_id) = 10 or 11**
  - **The leading photon must then pass**
    - **EM Fraction > 0.95; Isolation < 0.2**
    - **Photon Abs(detector eta) < 0.8**
    - **EM object > 0.01 radians from azimuthal cracks**
- Jet Cuts (Run II R=0.7)
  - **0.05 < EM Fraction < 0.95**
  - **Coarse Hadronic Fraction < 0.5**
  - **HotFraction < 10; N90 > 1**
  - **No jets in the event that fail these cuts**
- Vertex Cut
  - **|Pvsel_psz| < 70cm**

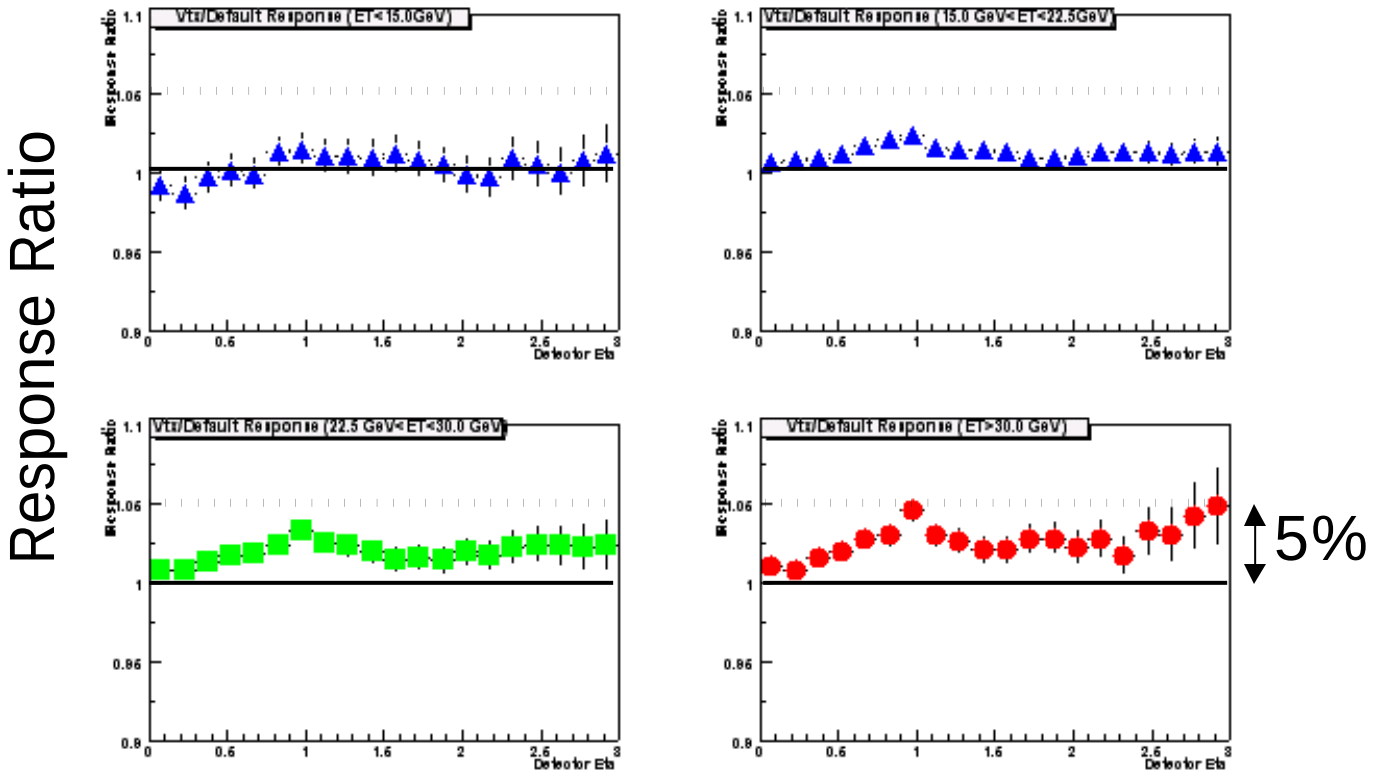


Tight Vertex Data Quality Cuts

- Default Cuts +
- Must have at least one vertex candidate
  - **Pvsel_psnvtx > 0**
- Must have a least two tracks pointing to vertex
  - **pvsel_psntrk > 1**

Tight Vertex Data Quality Cuts

Ratio Response(TightVtxCuts)/
Response (DefaultCuts)



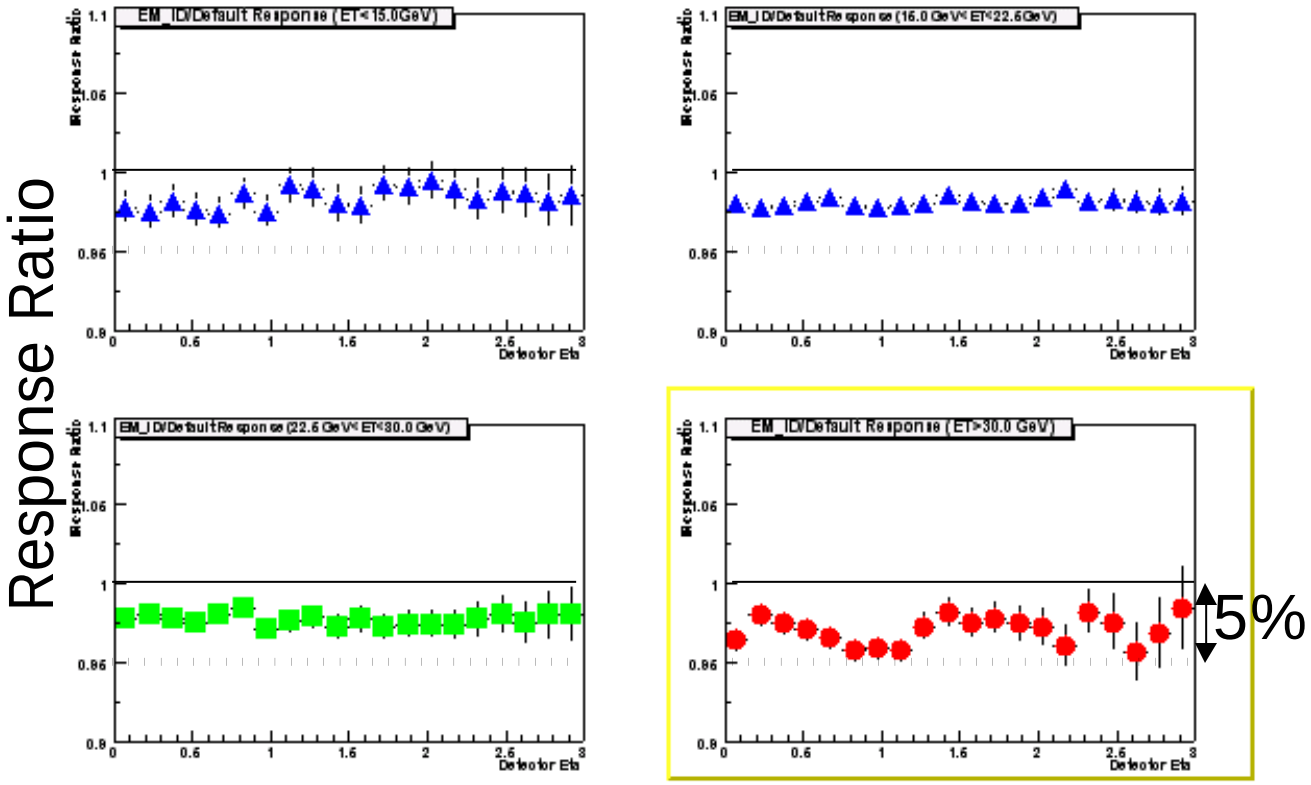
Detector Eta

Tight EM Data Quality Cuts

- **Default Cuts +**
- **The leading photon must have**
  - **0.95 < EM Fraction < 1.05;**
  - **-0.05 < Isolation < 0.2**

Tight EM Data Quality Cuts

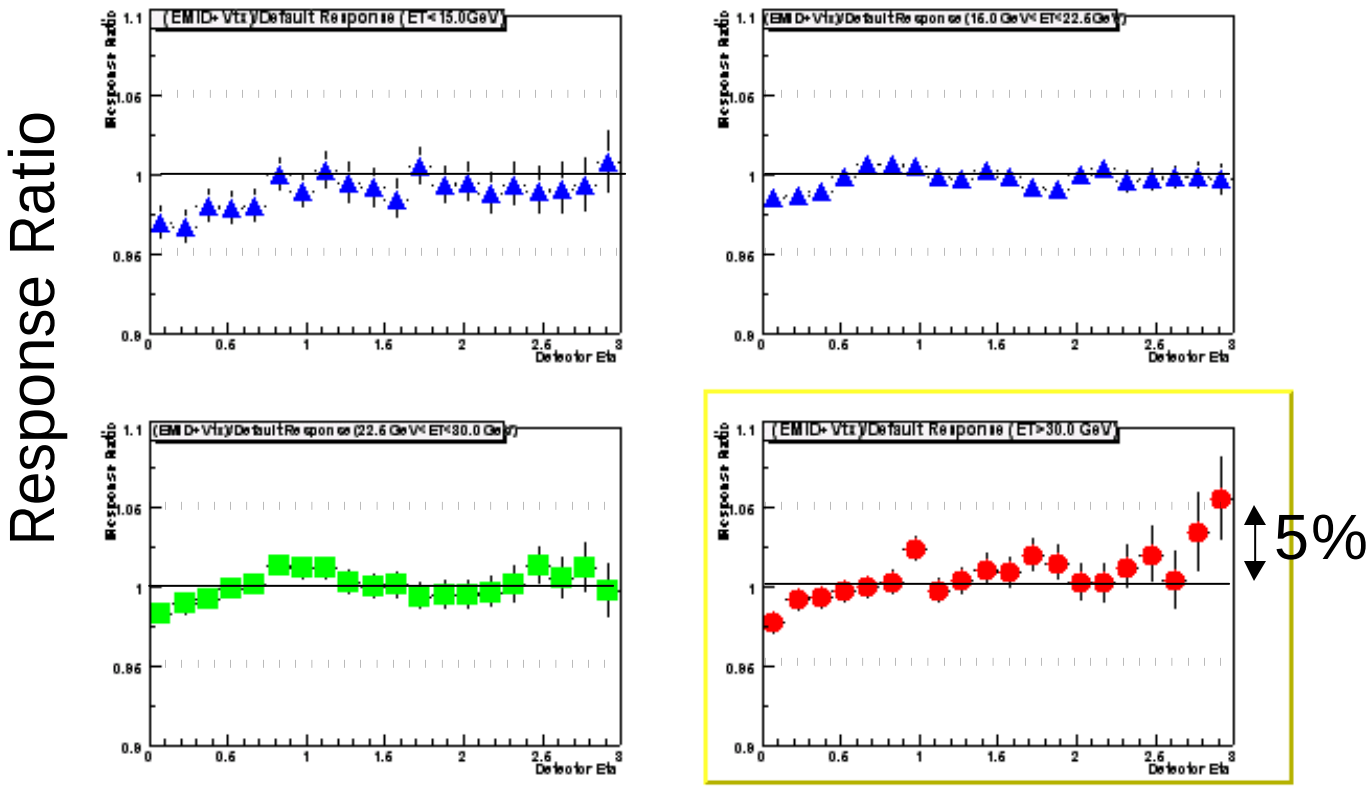
Ratio Response(TightEMCuts)/
Response (DefaultCuts)



Detector Eta

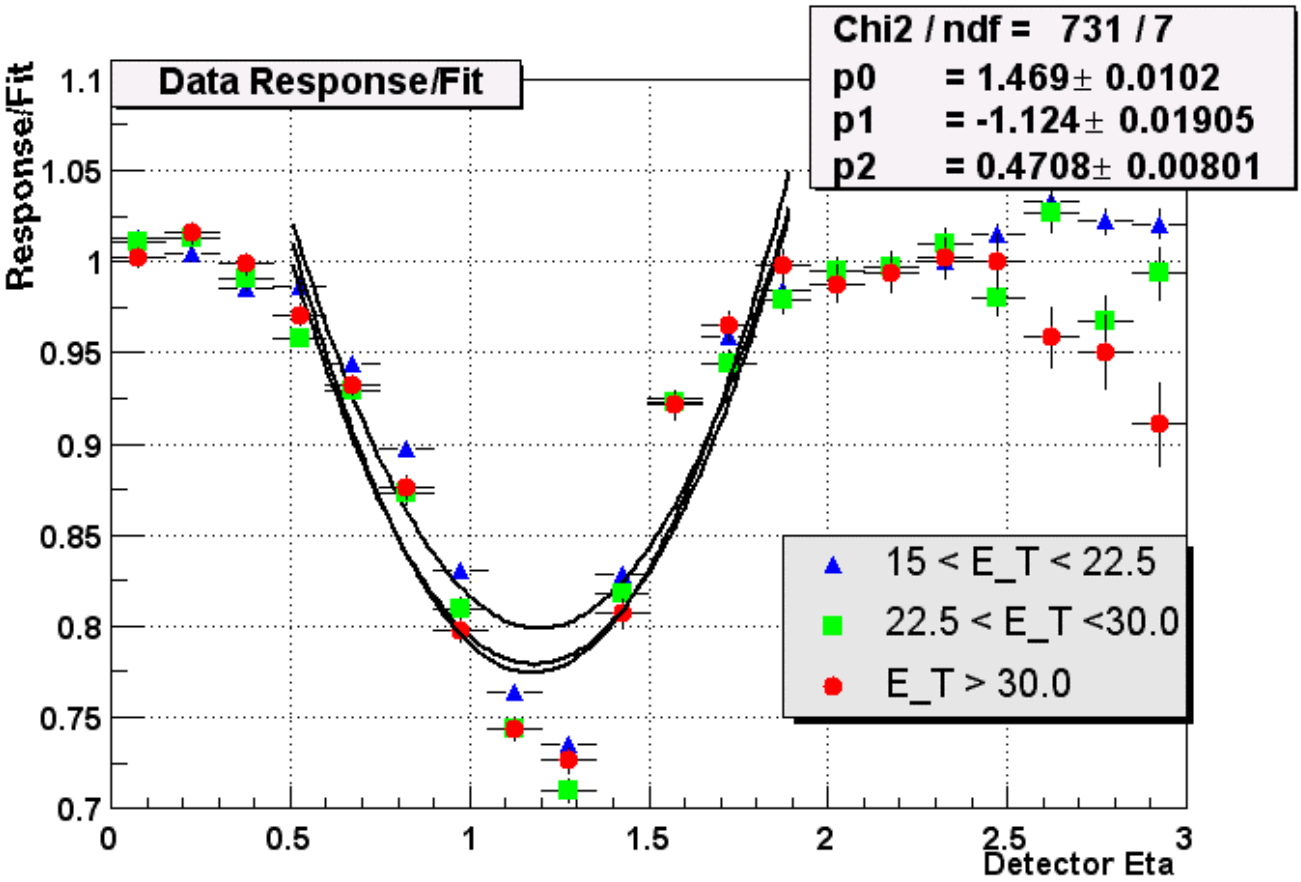
Tight EM+VTX Data Quality Cuts

Ratio Response(TightEMVTXCuts)/
Response (DefaultCuts)



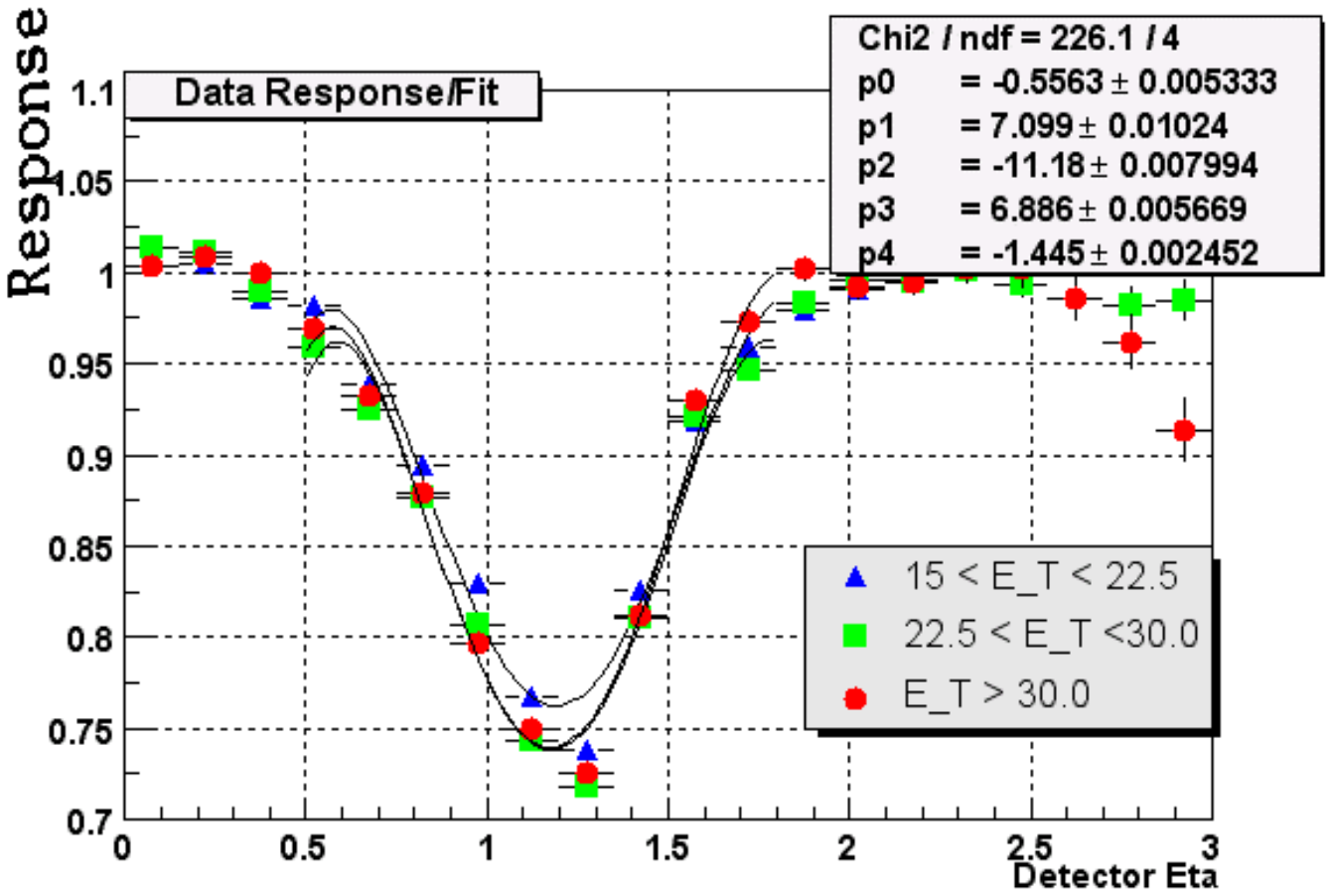
Detector Eta

Data/EFit Response vs.η – Default Cuts



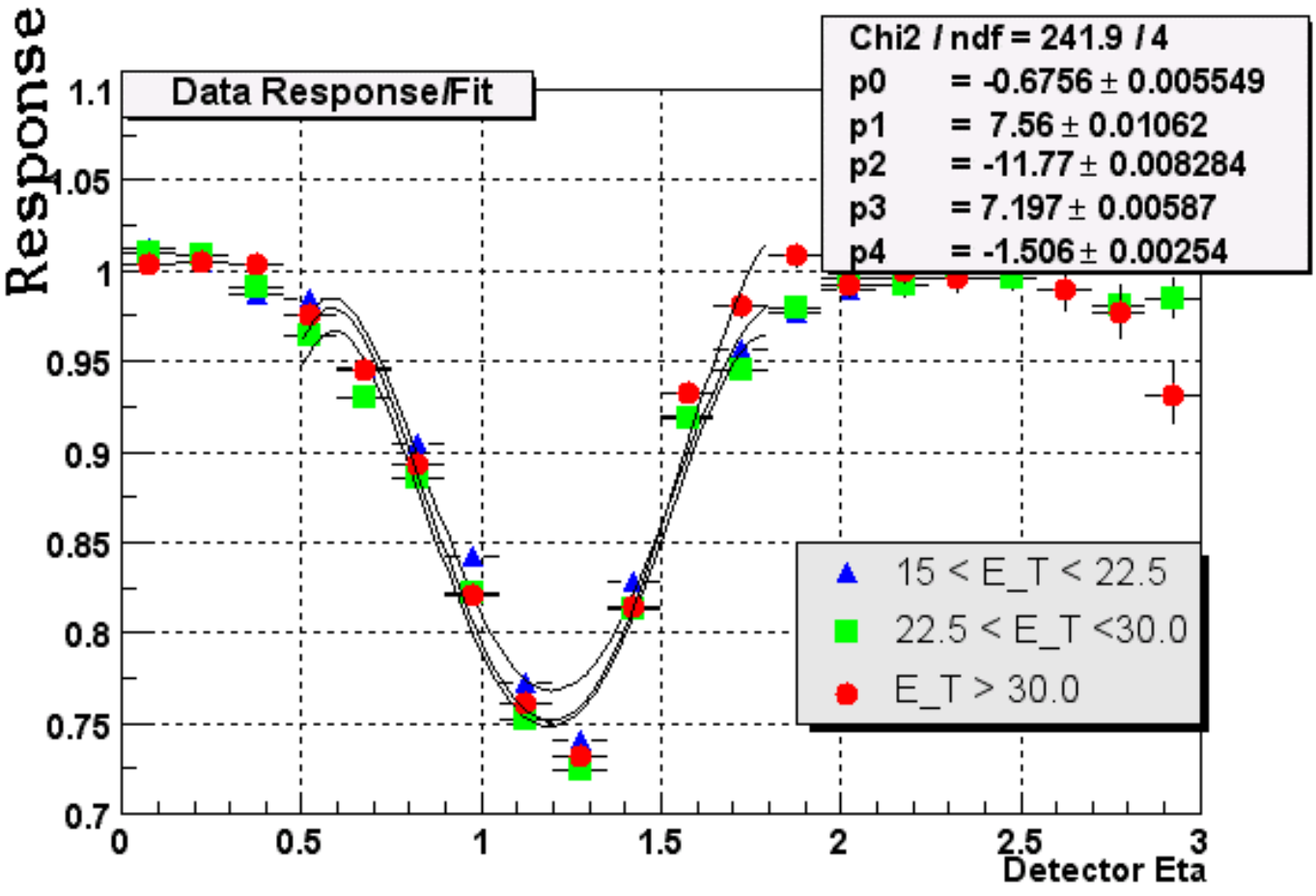
May 14 Ntuple – old fit

Data/EFit Response vs.η – Default Cuts



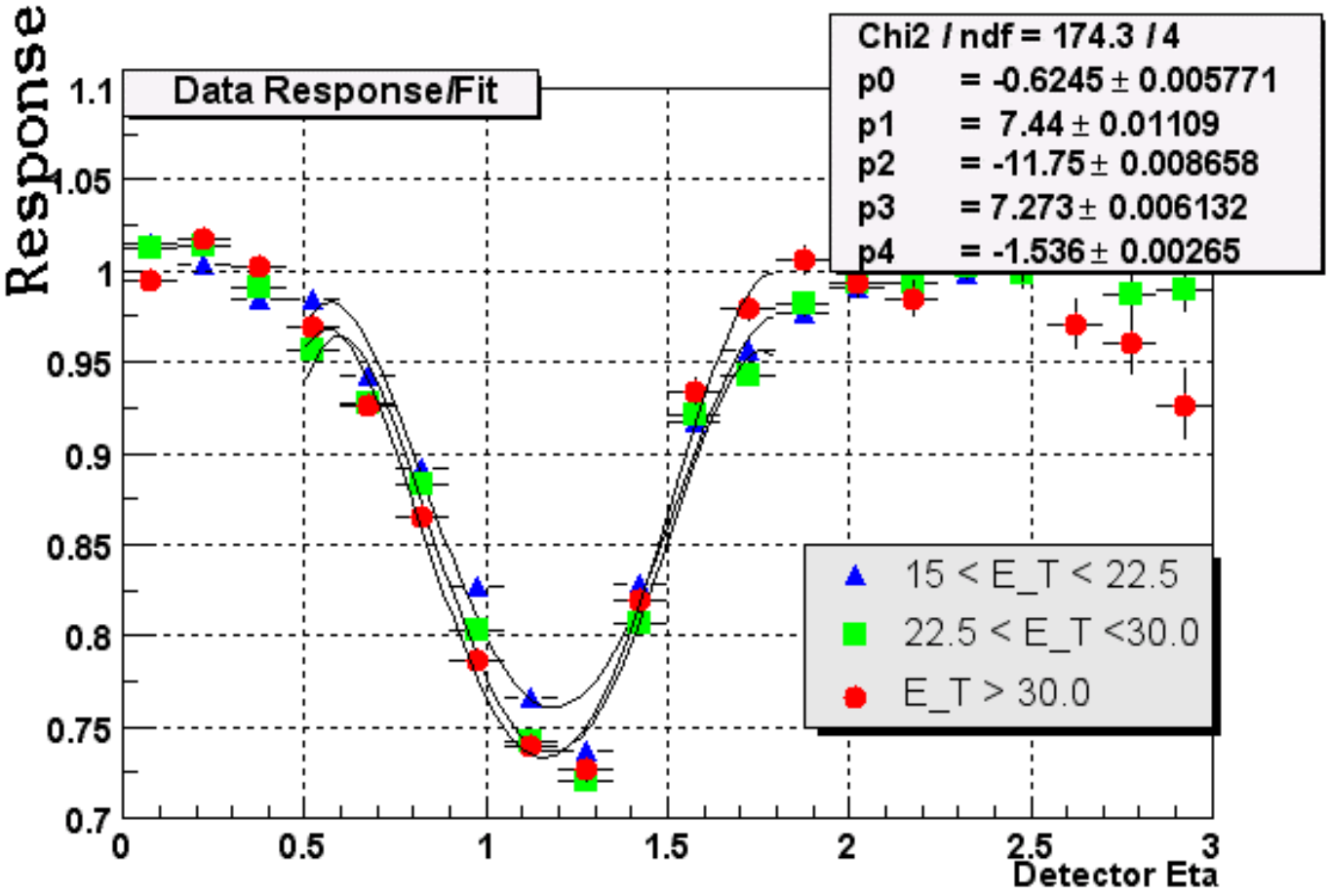
All stripped data – 4th order fit

Data/EFit Response vs.η – Tight Vtx Cuts



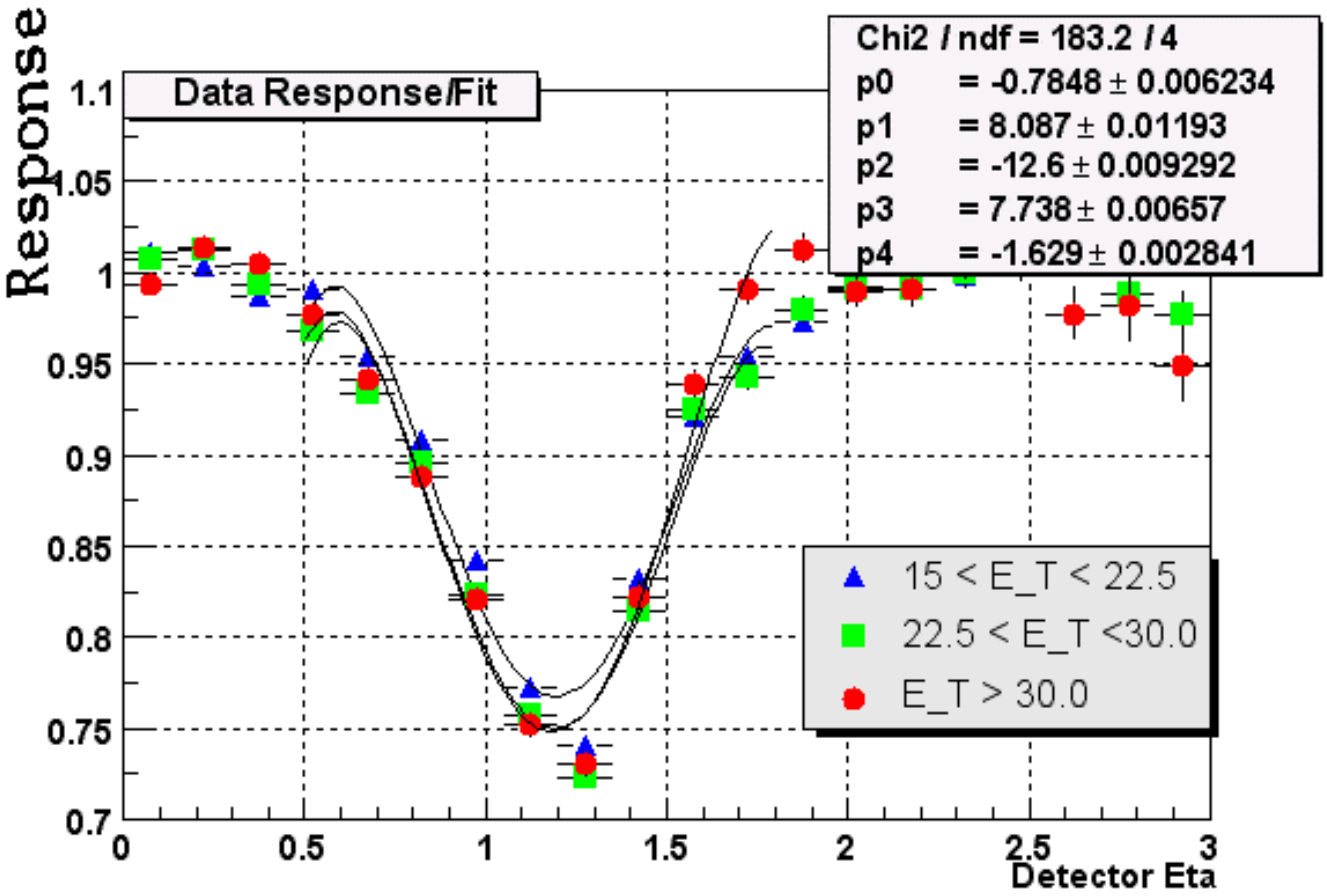
All stripped data – 4th order fit

Data/EFit Response vs.η – Tight EM Cuts



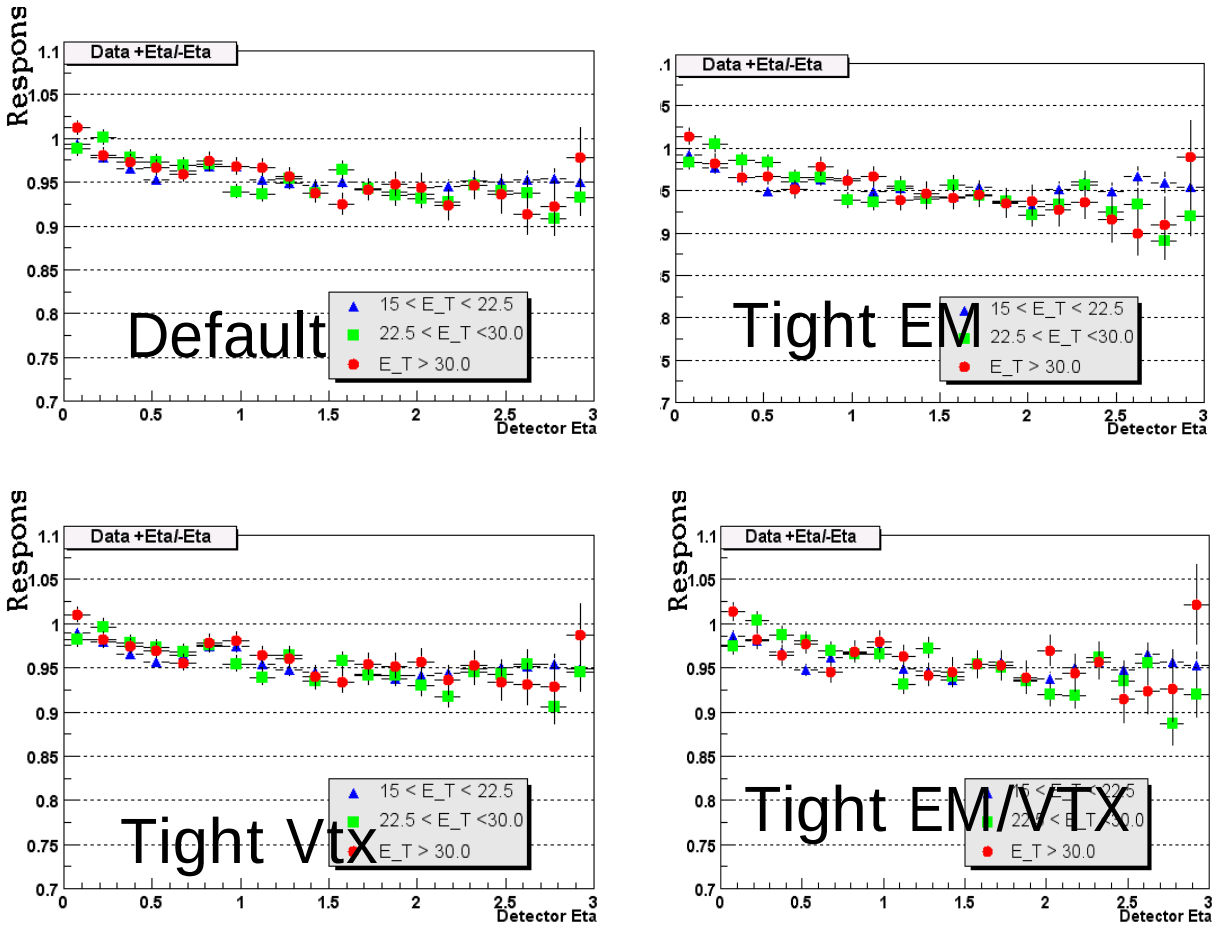
All stripped data – 4th order fit

Data/EFit Response vs.η – Tight VTX+EM Cuts

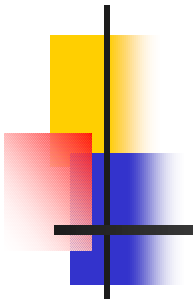


All stripped data – 4th order fit

Comparing +eta/-eta



Ratio +Eta/-Eta roughly same,
Independent of cuts



To Do

- **ToDo**
  - **Estimating/understanding systematic uncertainties**
  - **Redo correction after using cryofactor correction**
  - **Extract fits for same cuts from Monte Carlo**
  - **Understanding statistical uncertainties/correlations**
  - **Testing new JetAnalyze which has separate MG/ICD fractions**